

Environmental & Regulatory Services Division
Bureau of Storage Tank Regulation
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

Wisconsin COMM 10 Material Approval

Equipment Secondary Containment Aboveground Tanks
(UL 142, STI F921, Flameshield, Fireguard)

Manufacturer International Production Specialists, Inc. (I.P.S.)
35006 Washington Avenue
P. O. Box 117
Honey Creek, WI 53138

Expiration of Approval: December 31, 2006

SCOPE OF EVALUATION

The I.P.S. secondary containment aboveground tank for flammable liquids, with or without integrally welded supports, was evaluated in accordance with **ss. ILHR 10.345 (1) and 10.415 (7)(b)** of the Wisconsin Administrative Flammable and Combustible Liquids Code. This approval includes tanks displaying the UL 142 label, the STI (Steel Tank Institute) STI F921 the STI Flameshield and/or STI Fireguard labels.

Note: IPS Fireguard labeled tanks are included in Commerce Material Approval #980003-U issued to the Steel Tank Institute.

This approval has been based upon Commerce evaluation of information submitted by the manufacture, the Steel Tank Institute and third party evaluation. Specific tank or manufacturer design data is considered confidential. Specific technical information relating to evaluating or qualifying the technical and engineering information submitted should be made to the manufacture or submitter.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – Comm 10.

DESCRIPTION AND USE

These tanks are listed (UL 142, UL 2080, UL 2085, SWRI 97-04) tanks for the aboveground storage of flammable or combustible liquids. I.P.S. manufactures tanks in horizontal, vertical, and rectangular configurations according to the **UL 142** Standard, **STI 921**, **STI Flameshield** and **STI Fireguard** specifications. The inner tank and secondary containment have been tested and listed by UL in accordance with UL Standard 142. The support design has also been approved by UL.

To meet the projectile protection requirement of s. ILHR 10.451 (7)(b) each tank shall have a minimum wall thickness of 7/16 inch. This is typically achieved with a combination of 7ga. secondary wall and 1/4" primary wall thickness' for both heads and shells.

STI tested double-wall tanks fabricated to the STI 921 standard at Southwest Research Testing Laboratories under the SWRI 97-04 test procedure. The tank was tested for two hours at 2,000 degrees Fahrenheit and qualified for a "*fire resistant*" designation.

Note: NFPA 30 (2000 edition) -1.6.43.3 Fire-Resistant Tank. A listed aboveground tank that provides fire-resistive protection from exposure to a high-intensity liquid pool fire.

The construction of a fire resistant tank provides the required fire-resistance protection that shall prevent a release of liquid, failure of the primary tank, failure of supporting structure, or impairment of venting for a period of not less than 2 hours when tested using a fire exposure that simulates a high intensity pool fire. IPS double-wall tanks qualifying for the "fire-resistant classification will display the "**STI Flameshield**" label and the **SWRI/STI label**. The UL 142 and STI F921 labels are optional on a Flameshield tank.

The **Fireguard** tank is a thermally insulated double-wall storage tank. The interstitial space between the two steel walls is filled with a lightweight concrete and insulation mixture in thickness of 3 inches or 6 inches to provide the thermal resistance that limits the average temperature within the tank during a two hour 2,000 degree Fahrenheit test to 260 degrees. Tanks displaying the STI Fireguard label will provide a fire protection rating that is significantly less likely to exhibit a release or exhibit damage in a fire. Tanks designed to the STI Fireguard specifications have been tested and recognized as qualifying under the UL 2085 test procedure. A Fireguard tank shall be marked with "UL 2085 Protected Tank" label and the "STI Fireguard" label.

Note: NFPA 30 (2000 edition) -1.6.43.6 Protected Aboveground Tank. An aboveground storage tank that is listed in accordance with UL 2085, Standard for Insulated Aboveground Tanks for Flammable and Combustible Liquids, or an equivalent test procedure that consists of a primary tank provided with protection from physical damage and fire-resistive protection from exposure to a high-intensity liquid pool fire.

The tank system designed for vehicle fueling includes the following components:

- ◆ A 2- or 3-inch top fill pipe with lockable spill basin cover, overfill protection valve, check valve and 25-gallon spill containment basin for bottom filling or a 7-gallon spill containment basin for top filling. The tank may also be filled with a direct hook-up.

- ◆ A 1.5- or 2-inch pump feed line with an electrically operated explosion proof solenoid valve at the tank top and an emergency shut-off valve with shear section and fusible link or a pressure-regulator valve with shear section mounted under a remote dispenser. If the pump is mounted directly to the top of the tank, the solenoid valve, emergency shutoff and pressure regulator are not needed. The hose would then require a break-away to prevent siphoning.
- ◆ An emergency pressure relief vent and working vent.
- ◆ A protected external site gauge or float gauge.
- ◆ An anti-static wire reel.
- ◆ A pump support deck with leak containment underneath.
- ◆ A pump with hose and nozzle. Hose reel and filter is optional.

LIMITATIONS / CONDITIONS APPROVAL

The double wall tanks are approved for compliance with the secondary containment requirements of **ss. ILHR 10.345 (1)** and **10.415 (7)(b)** and may be used without a dike, except in the case of public-access waste oil collection. Tanks for public-access waste oil collection shall be provided with a dike in accordance with **s. ILHR 10.33**.

Tanks up to 12,000 gallons displaying the STI F921, Flameshield or Fireguard label may be used for vehicle fueling in accordance with **s. ILHR 10.415**. All other tanks under this Material Approval used for the purpose of vehicle fueling are restricted to 10,000 gallon capacity.

The Fireguard tank with 6 inches of insulation meets the requirements for 4-hour fire exposure and may be sited using the reduced setbacks under **s. ILHR 10.415 (4)(b)1**.

The Fireguard tank with 3 inches of insulation meets the requirements for 3-hour fire exposure and may be sited using the reduced setbacks under **s. ILHR 10.415 (4) (b)2**.

The interstitial space shall be monitored for leaks. The monitor must be capable of detecting a leak from anywhere in the inner tank.

Compartmentalized tanks shall be constructed for a double bulkhead in accordance with UL Standard 142. This interstitial space between compartments shall be monitored for leaks.

A spill container shall be provided at the fill opening in accordance with **s. ILHR 10.415 (12)(a)**.

Separate vehicle collision protection shall be provided, when required, by a barrier that meets the design requirements specified in **s. ILHR 10.415 (8)(a)**.

No attachments shall be made to the tank that will violate or void the UL Listing.

The tank shall be installed to allow full visual inspection of the secondary containment system. Tank foundations shall be designed to minimize the possibility of uneven settling of the tank and to minimize corrosion in any part of the tank resting on the foundation. Direct grade contact with bottom of tank shell is acceptable if the tank is placed on a prepared flat smooth solid surface.

The tank system operator is required to maintain the system components according to the respective manufacturer's guidelines.

The installer shall be certified by the department in accordance with **ch. Comm 5.84**.

This approval will be valid through December 31, 2006, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Approval Date: March 27, 2001

Approved by:

A handwritten signature in black ink, appearing to read "Sheldon Schall". The signature is fluid and cursive, with the first and last names being more prominent.

Sheldon Schall, Chief
Bureau of Storage Tank Regulation